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| APPLICATION NO.          | FILING DATE | FIRST NAMED INVENTOR    | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------|-------------|-------------------------|---------------------|------------------|
| 09/902,035               | 07/10/2001  | Timothy David Forrester | 42252-1009          | 7784             |
| 32968                    | 7590        | 02/23/2005              | EXAMINER            |                  |
| KYOCERA WIRELESS CORP.   |             |                         | TRINH, TAN H        |                  |
| P.O. BOX 928289          |             |                         | ART UNIT            |                  |
| SAN DIEGO, CA 92192-8289 |             |                         | PAPER NUMBER        |                  |

2684

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                          |  |
|------------------------------|------------------------|--------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b>      |  |
|                              | 09/902,035             | FORRESTER, TIMOTHY DAVID |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>          |  |
|                              | TAN TRINH              | 2684                     |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 26-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26 and 27 is/are allowed.
- 6) ☒ Claim(s) 28-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. Claims 26 and 27 are allowed.

### ***Reasons for allowance***

2. The following is an examiner's statement of reasons for allowance:

Regarding independent claims 26 and 27 are allowed with the same reasons set forth in the previous Office action (mailed on 4-9-2004).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 28-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Irvin (U.S. Patent No. 6,021,317) in view of Todd (U.S. Patent No. 6,002,672) further in view of Kotzin (U.S. Patent No. 5,822,699).

Regarding claims 28 and 34, Irvin teaches a mobile communications device (see fig. 1), comprising: a first antenna (see fig. 1, antenna 22); a second antenna (see fig. 1, antenna 24); a transmitter (see fig. 1, transmitter 12); a receiver (see fig. 1, receivers 15); a switching module (see fig. 1, switching module 30); comprising: a first switch capable of switchably connecting the transmitter to either the first antenna or the second antenna; (see fig. 3, switching module 30 with switches 41 and 43, col. 3, lines 55-65), and a second switch capable of

switchably connecting the receiver to either the first antenna or the second antenna (see switching module 30 with switches 42 and 44, col. 3, lines 55-65); and a controller connected to the switching module to selectively connect the receiver to one of the first and second antennas (see fig. 1, controller 50) based upon signal-to-noise ratio of a signal received from one of the first and second antennas (see col. 7, lines 45-59). But Irvin fails to teach a bit error rate of a signal received from one of the first and second antennas. And Irvin or Todd fails to teach the controller connected to the transmitter to set the frequency  $f_1$  (uplink), and connected to the receiver to set frequency  $f_2$  (downlink), base on the bit error rate.

However, Todd teaches a bit error rate of a signal received from one of the first and second antennas (see fig. 1, RF switch 35 and receiver 50, col. 5, lines 34-42 and col. 6, lines 52-65).

However, Kotzin teaches the controller connected to the transmitter to set the frequency  $f_1$  (uplink), and connected to the receiver to set the frequency  $f_2$  (downlink), base on the bit error rate (see fig. 1, col. 6, lines 43-65).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time invention was made to modify the Irvin system and by providing of the teaching of Todd on the BER measured thereto in order to provided the level of the BER of the signal to determine the antennas selection (see col. 6, lines 52-61) and the teaching of Kotzin on the uplink/downlink channel base on the BER with compare the RSSI to the threshold so that the interference of the production is reduced (see col. 6, lines 35-39).

Regarding claim 29, Irvin teaches wherein the controller is connected to the switching module to selectively connect the transmitter to one of the first and second antennas based upon a transmission characteristic of one of the first and second antennas (see fig. 1, controller 50 and switching module 30, col. 3, lines 55-65, and col. 7, lines 53-59, and col. 8, lines 6-29).

Regarding claims 30 and 37, Todd teaches wherein the transmission characteristic comprises signal strength relative to a predetermined signal strength threshold (see col. 1, lines 25-43, col. 8, lines 26-38, and col. 9, lines 10-22).

Regarding claims 31 and 38, Irvin teaches wherein the transmission characteristic is detected by a base station and transmitted to the controller via one of the first and second antennas (see fig. 1, controller 50 and abstract lines 14-16). (Since during the communication the mobile to base station the transmission characteristic is detected by a base station that is well known in the art).

Regarding claims 32 and 39, Irvin teaches wherein the first and second antennas are disposed at an angle with respect to each other (see col. 6, line 58-col. 7, line 2).

Regarding claims 33 and 40, Irvin teaches wherein the first and second antennas are disposed orthogonally with respect to each other (see col. 6, line 58-col. 7, line 2, the antennas 22 and 24 are disposed orthogonally vary by 80 degree or more).

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Regarding claims 35 and 36, Todd teaches for comparing the bit error rate of the second signal received from the first antenna to that of the second signal received from the second antenna (see figs. 4A-D, col. 4, line 53-col. 5, line 62 and col. 6, line 53-col. 7, line 60).

### ***Conclusion***

**5. Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314, (for Technology Center 2600 only)**

*Hand-delivered responses should be brought to Crystal Park II,  
2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan Trinh whose telephone number is (703) 305-5622. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung, can be reached at (703) 308-7745.


The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-0377**.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tan H. Trinh   
Art Unit 2684  
Feb. 16, 2005

  
**NICK CORSARO**  
**PRIMARY EXAMINER**